

# JUAN S. CORTES

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Portfolio: <https://cortesju.github.io>

## EDUCATION

**University of Southern California, Los Angeles, CA**

**Expected Dec 2026**

*M.S. Geographic Information Science & Technology*

**Relevant Coursework:** Spatial Analysis, Python GIS Programming, Cartography & Visualization, Spatial Data Science

**Universidad de los Andes, Bogotá, Colombia**

**Apr 2020**

*B.Arch. Architecture and Design*

## EXPERIENCE

**Las Flores Water Company, Altadena, CA**

**Summer 2025**

*GIS Intern Research*

- Collected and standardized post-fire infrastructure data using ArcGIS Survey123 to support FEMA Public Assistance documentation.
- Mapped damaged water meters and verified spatial data quality across affected service areas.
- Produced geospatial reporting materials used in post-disaster recovery funding requests.
- Developed an interactive StoryMap documenting infrastructure damage and recovery workflows.

**University of Southern California, Los Angeles, CA**

**Aug 2025 – Dec 2025**

*Teaching Assistant – Human Populations and Natural Hazards*

- Assisted instruction for undergraduate coursework focused on hazards, climate risk, and geospatial analysis.
- Supported students using ArcGIS Online, StoryMaps, and spatial datasets for hazard assessment projects.
- Reviewed assignments involving wildfire, flood, drought, and environmental vulnerability analysis.

**WSP | Bogotá Metro Line 1, Bogotá, Colombia**

**Feb 2021 – Nov 2022**

*Design Architect*

- Contributed to architectural design development for four stations along Bogotá's first metro line.
- Coordinated drawings and technical documentation across multidisciplinary engineering teams.
- Produced plans and visualization materials using AutoCAD and BIM workflows.
- Supported spatial planning and infrastructure coordination processes.

**Universidad de los Andes, Bogotá, Colombia**

**Jul 2019 – Dec 2019**

*Research Student Assistant*

- Supported water sustainability and urban planning research focused on Bogotá river systems.
- Integrated GIS analysis and demographic datasets for environmental assessment studies.
- Assisted multidisciplinary research teams with spatial visualization and territorial analysis.

## SELECTED PROJECTS

### **Vanishing Clouds: Mapping Colombia's Páramo Ecosystems ( Check Portfolio )**

*Python, ArcGIS Online, Web GIS, Cartography*

- Designed an interactive environmental storytelling platform exploring biodiversity loss and land-use change in Colombia's páramo ecosystems.
- Integrated climate, elevation, land cover, fire, and biodiversity datasets into a multi-layer web mapping experience.
- Developed interactive visualizations using ArcGIS Online, Leaflet, and custom web design workflows.

### **GeoAI-Lite Post-Disaster Infrastructure Triage Tool**

*Python, ArcGIS Pro, PyTorch, Survey123*

- Built a GIS-integrated machine learning workflow for classifying post-disaster infrastructure imagery.
- Automated spatial joins, confidence scoring, and review prioritization for field-collected data.
- Developed an interactive dashboard prototype supporting human-in-the-loop infrastructure triage.

## TECHNICAL SKILLS

- **GIS & Spatial:** ArcGIS Pro, ArcGIS Online, Survey123, Experience Builder, ModelBuilder, QGIS
- **Programming & Data:** Python, ArcPy, pandas, GeoPandas, Jupyter, scikit-learn (basic), R
- **Web Mapping:** Leaflet, ArcGIS JavaScript API, GitHub Pages, Folium
- **Design & Visualization:** AutoCAD, Revit, Adobe Creative Suite, Blender, SketchUp
- **Languages:** English, Spanish (native)

## AWARDS & AFFILIATIONS

- Tom McKnight & Joan Clemens Award for Outstanding Paper by a Master's Student — APCG (2025)
- Esri StoryMaps Competition Recognition (2025)
- Member, American Association of Geographers (AAG)
- Member, Association of Pacific Coast Geographers (APCG)